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10/673,383	09/26/2003	Bharat T. Doshi	Doshi 57-6-22-18-34	8402

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EXAMINER
BATES, KEVIN T

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 September 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _9-26,11-21,7-31,5-16_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This Office Action is in response to a communication made on September 26,

2003.

The Information Disclosure Statements received, September 26, 2003,

November 21, 2005, July 31, 2006, and May 16, 2007, have been considered.

The Declaration has been received on February 26, 2004.

Claims 1-13 are pending in this application.

Claim Objections

Claim 7 is objected to because of the following informalities: The claim starts

with "Then invention" which seems to be a typo and should be "The invention".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The claim contains the limitation "the form of the sharing

degree is an approximation to the sharing degree that is calculated . . . ." It is unclear in

the context of the claim how the form of the SD is an approximation of that same SD,

please clarify the language to describe what exactly meant by the claim language. The

claim also contains the limitation, "computer the bitwise AND of the binary

representation of the node-link vector." It is unclear what exactly a bitwise AND is and

how it is computed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by

Doshi (6130875).

Regarding claims 1 and 11, Doshi teaches a method for determining primary

and restoration paths for a new service in a mesh network having a plurality of nodes

interconnected by a plurality of links (Abstract), the method comprising:

for each of a plurality of candidate path pairs for the new service, each candidate

path pair comprising a candidate primary path and a candidate restoration path for the

new service (Column 23, lines 55 – 64), generating a path cost associated with said

each candidate path pair, wherein the path cost for a candidate path pair is a function of

sharability of links within the corresponding candidate restoration path (Column 25, lines

30 – 38); and

selecting the primary and restoration paths for the new service from the plurality

of candidate path pairs based on the path cost of each candidate path pair (Column 27,

lines 26 – 41).

Regarding claim 2, Doshi teaches the invention of claim 1, wherein generating

the path cost for each candidate path pair comprises: generating a link cost associated

with each link in the corresponding candidate restoration path (Column 26, lines 8 – 17);

and generating the path cost as a function of a sum of the link costs for all links in the

candidate restoration path (Column 25, lines 41 – 51).

Regarding claim 3, Doshi teaches the invention of claim 2, wherein, for each

link, generating the link cost comprises: determining whether sharing is available on the

link; and if sharing is available, then generating the link cost as a function of a sharing

degree for the link (Column 25, lines 41 – 51).

Regarding claim 4, Doshi teaches the invention of claim 3, wherein, if sharing is

not available (Column 26, lines 8 – 9, if the capacity request is rejected), then:

determining whether utilization of the link is greater than a specified threshold; if the link

utilization is greater than the specified threshold, then generating the link cost as a

function of an administrative weight for the link and available capacity on the link; and if

the link utilization is less than the specified threshold, then generating the link cost as a

function of the administrative weight for the link (Column 23, under FC header in the

table, shows that the FC value is updated even if the commit message is rejected and

the threshold is if the FC is greater than zero).

Regarding claim 5, Doshi teaches the invention of claim 3, wherein the link cost is also generated as a function of an administrative weight for the link (Column 35, lines 19 – 24).

Regarding claim 6, Doshi teaches the invention of claim 3, wherein the link cost is also generated as a function of a form of a sharing degree (Column 23, under FC header in the table, where FC takes into account capacity that has been reserved for restoration path as free capacity is increased).

Regarding claim 7, Doshi teaches the invention of claim 6, wherein the form of the sharing degree is an approximation to the sharing degree that is calculated using a binary representation of a node-link vector and a binary representation of a primary path node-link vector, wherein the calculation of the approximation comprises: computing the bitwise AND of the binary representation of the node-link vector and the binary representation of the primary path node-link vector (Column 25, lines 30 – 38, where the alrigthm that has the highest G value and the G value is calculated taking into consideration all the links along the route, see steps 3 and 4), and computing the OR of all elements of the resulting vector to determine whether sharing is possible (Column 25, lines 43 – 48, where determining if any of the links is zero is the same as taking the OR of all the links in the route).

Regarding claim 8, Doshi teaches the invention of claim 1, wherein the sharability of a link in a candidate restoration path is represented by a sharing degree for the link, wherein the sharing degree is a maximum number of additional unit-bandwidth primary services that can be added to the candidate primary path without

increasing restoration bandwidth reserved on the link (Column 23, under FC header in the table, where FC takes into account capacity that has been reserved for restoration path as free capacity is increased).

Regarding claim 9, Doshi teaches the invention of claim 8, wherein the sharing degree SD for a link is given by: SD=the maximum value m for which max $\{m^*V_{pnl}+V_{nla}\}$=RB, wherein: V_{pnl} is a primary path node-link vector for the corresponding candidate primary path; V_{nla} is an aggregate node-link vector for the link; and RB is current reservation bandwidth on the link (Column 25, lines 30 – 38, where the alrigthm that has the highest G value and the G value is calculated taking into consideration a weighted version of the primary route and restoration route, see the table in column under G function, steps 3 and 4).

Regarding claim 10, Doshi teaches the invention of claim 8, wherein the sharing degree SD for a link is given by: SD=the maximum value m for which max $\{m^*V_{pn}+V_{na}\}$=RB, wherein: V_{pn} is a primary path node vector for the corresponding candidate primary path; V_{na} is a node-aggregate vector for the link; and RB is current reservation bandwidth on the link (Column 25, lines 30 – 38, where the alrigthm that has the highest G value and the G value is calculated taking into consideration a weighted version of the primary route and restoration route, see the table in column under G function, steps 3 and 4).

Regarding claim 13, Doshi teaches the invention of claim 11, wherein the network manager is located at a single node of the network (Figure 6, element 54).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Doshi.

Regarding claim 12, Doshi teaches the invention of claim 11.

Doshi does not explicitly indicate wherein the network manager is distributed

over the network.

Examiner takes Official Notice (see MPEP § 2144.03) that "the central manager

in Doshi can be distributed over the network in order to provide redundancy or load

balancing in the network". The Applicant is entitled to traverse any/all official notice

taken in this action according to MPEP § 2144.03, namely, "if applicant traverses such

an assertion, the examiner should cite a reference in support of his or her position".

However, MPEP § 2144.03 further states "See also In re Boon, 439 F.2d 724, 169

USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain

adequate information or argument to create on its face a reasonable doubt regarding

the circumstances justifying the judicial notice)." Specifically, In re Boon, 169 USPQ

231, 234 states "as we held in Ahlert, an applicant must be given the opportunity to

challenge either the correctness of the fact asserted or the notoriety or repute of the

reference cited in support of the assertion. We did not mean to imply by this statement

that a bald challenge, with nothing more, would be all that was needed". Further note that 37 CFR § 1.671(c)(3) states "Judicial notice means official notice". Thus, a traversal by the Applicant that is merely "a bald challenge, with nothing more" will be given very little weight.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No. 5854903 issued to Morrison, because it teaches calculating virtual pair routes in a network.

U. S. Patent No. 5506956 issued to Cohen, because it teaches having a route pair including a back up path.

U. S. Patent No. 6104701 issued to Avargues, because it teaches performing least cost calculations for a primary and back-up path.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Bates whose telephone number is (571) 272-3980. The examiner can normally be reached on 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB
June 23, 2007